MEMORANDUM

To: File No. S7-34-10; Release No. 34-63346

From: Division of Risk, Strategy and Financial Innovation[1]

Date: January 13, 2011

Re: Security-Based Swap Block Trade Definition Analysis

The objective of this analysis is to provide information to assist in the evaluation of how various block trade definitions[2] might work in the context of Security-Based Swap (SBS) instruments.[3] The analysis considers the effects of defining block trades based on a fixed notional SBS size as well as a notional size relative to the level of trading volume in the same instrument. Respectively, the criteria for these definitions are referred to as fixed and dynamic threshold requirements. Using historical SBS trade data, the analysis estimates the fraction of trades that would be classified as block trades under different block trade definitions, and shows how the effect of the block trade definitions discussed by the Commission in its proposing release would vary according to the underlying liquidity of an SBS instrument as measured by the average number of trades per day.[4] The analysis in this memo is not intended to justify a particular block definition and is provided for illustrative purposes only.

[1] This is a memo by the Staff of the Division of Risk, Strategy and Financial Innovation of the U.S. Securities and Exchange Commission. The Commission has expressed no view regarding the analysis, findings, or conclusions contained herein.

[2] See "Regulation SBSR - Reporting and Dissemination of Security-Based Swap Information," Proposed Rules, Exchange Act Release No. 63346 (November 19, 2010), 75 FR 75208 (December 2, 2010) ("Proposing Release")

[3] See proposed Rule 900 of proposed Regulation SBSR (defining "security-based swap instrument" as each SBS in the same asset class, with the same underlying reference asset, reference issuer, or reference index). Proposing Release at 75283.

[4] See Proposing Release at 75229.

The analysis is based on a sample of 411,042 new, risk transfer, dollar quoted, gold record transactions in both Corporate and Sovereign Single Name Credit Default Swaps (CDS)[5] submitted to the Depository Trust & Clearing Corporation (DTCC) between August 1, 2009 and July 30, 2010, a sample of data identical to the one used in the Commission's SBSR Proposing Release.[6]

A. Criterion 1: A fixed block size threshold[7]

All else being equal, costs faced by liquidity providers to offset large trades could be proportional to the notional value of transactions. Specifically, larger transactions could be more difficult to unwind regardless of market conditions or instrument characteristics. Hence, one possible approach in defining a block trade is a fixed minimum threshold above which all transactions should be considered blocks. Such a threshold could be inferred from the historical distribution of transaction sizes as long as this distribution is a good indicator of trade sizes in the future.

While this option could be relatively simple to implement, one consequence is that disproportionately more trades would qualify as block trades in liquid SBS instruments where trade sizes tend to be larger than those in less frequently traded SBS instruments.[8] Offsetting trades might be more difficult for liquidity providers in less liquid instruments where there were fewer potential counterparties. A lower block size threshold in less liquid instruments might be appropriate if it encouraged liquidity providers to trade in less actively traded reference names.

One way to account for differences in average trading across reference names would be to establish criteria based on a fixed notional SBS size by reference name. But, even if such

[5] A Single Name CDS is a contract that provides protection against a default event on the part of a single issuer, either a company (Corporate) or a sovereign government (Sovereign). A Single Name CDS is one of the two major classes of SBS instruments. The other major class of SBS instruments is Equity Based Swaps.

[6] The analysis presented here is complementary to the Commission's discussion in the Regulation SBSR Proposing Release. Specifically, the numerical analysis included in the SBSR Proposing Release illustrates the number and percent of block trades that would be captured by a fixed block size threshold rule for Corporate and Sovereign Single Name CDS (see Proposing Release at 75230). A different perspective on the fixed block size threshold criterion is presented in Table 1 of this memo. The numerical analysis in Tables 2, 3 and 4 does not overlap specific analysis included in the SBSR Proposing Release, but provides estimates of the effect of some block trade threshold criteria discussed by the Commission in the Proposing Release. The data used for this analysis is identical to the data used in the Commission's SBSR Proposing Release. See Proposing Release at 75209.

[7] See Proposing Release at 75231.

[8] See Proposing Release at 75231.

differences were accounted for, and different fixed minimum thresholds were specified, there remains the limitation that such a definition would not adjust to market conditions that change over time. A notional trade size that merits block trade status at one point in time might not be appropriate at a different point in time when the characteristics of the market change, such that the hedging costs faced by the marginal dealer for a trade of a given size also change.

B. Criterion 2: A dynamic block size threshold[9]

As discussed in the Commission's SBSR Proposing Release,[10] a dynamic volume-based block trade threshold could account for both the variation in liquidity providers' costs across SBS and the variation in these costs in an SBS over time. This could accommodate the increased difficulty in unwinding a trade of a certain size when trading volume is low compared to when trading volume is high.[11] A dynamic volume-based block trade threshold would also provide for lower thresholds in SBS with lower trading volume. According to finance theory and empirical evidence from the equity markets,[12] environments with higher trading volume lessen the price impact associated with trades of a given size.

Applying a dynamic block threshold alone, however, might or might not be appropriate. Many SBS instruments trade sparsely and have low aggregate volume over any given period. Thus, many, and possible all, trades in these types of SBS instruments – even those with modest notional values – would automatically be defined as block trades by construction of such a rule. Because the threshold would impact transparency, increasing the number of trades that were defined as block trades might impede the price discovery process in these instruments. The benefits of a transparency delay, if applied to trades with modest notional values in less active securities, might not be very important to dealers because trades in many of the less actively traded securities are a very small proportion of the overall CDS trading volume[13] and, consequently, represent a very small proportion of dealers' trading activity since dealers

[9] See Proposing Release at 75231.

[10] See Proposing Release at 75231.

[11] A dynamic threshold assumes that trading volume and market conditions in near future will be similar to those over the recent past.

[12] See, e.g. Madhavan, Ananth (2000), Market Microstructure: A Survey, Journal of Financial Markets at 219-220.

[13] Table 2 shows that although as many as 21.10% (16.35%) of Corporate (Sovereign) Single Name CDS reference entities experience less than 1 trade per day on average, their trades represent only 0.19% (0.05%) of the overall number of trades in Corporate (Sovereign) Single Name CDS, respectively.

intermediate a small number of trades in such CDS relative to the number of trades intermediated for more actively traded CDS.

C. The effect of block trade definition criteria

The analysis that follows considers how block trade definitions using various fixed minimum notional size and dynamic volume-based thresholds would have classified trades that occurred in the Single Name CDS market during the period August 1, 2009 through July 31, 2010. This analysis examines the effects of the following block definition criteria touched upon by the Commission in its SBSR Proposing Release:

1. Fixed minimum notional size thresholds.
2. Dynamic volume-based thresholds based on the aggregate notional amount of all executions in a CDS instrument over the past 30 calendar days.
3. A combination of dynamic volume-based thresholds and fixed minimum thresholds of $10 and $25 million, respectively.

To provide perspective on the potential effect of a fixed minimum notional size threshold alone, Table 1 reviews the overall distribution of trade sizes reported in the SBSR proposing release for all dollar-denominated Corporate and Sovereign Single Name CDS trades during the period.[14] The median trade size for Corporate (Sovereign) Single Name CDS trades is $5 million ($7 million). If the fixed minimum block threshold were set to those levels, then half of all trades would qualify as blocks. Under a $10 million fixed minimum threshold definition, less than 25% (50%) of Corporate (Sovereign) Single Name CDS trades over the recent period would have qualified as a block trade. A fixed minimum threshold definition of $25 million would reduce the number of qualifying block trades even further, to less than 5% (25%) of the dollar-denominated Corporate (Sovereign) Single Name CDS trades over the recent period.

[14] See Proposing Release at 75229-75231.

Table 1. Distribution of Trade Sizes

This table gives the trade size percentiles separately for Corporate and Sovereign Single Name CDS. Estimates are across all trades.

Trade Size Percentile	Corporate Single Name CDS Trade Sizes $Millions	Sovereign Single Name CDS Trade Sizes $Millions
99%	35.58	100.00
95%	20.00	50.00
90%	13.00	27.13
75%	8.50	15.00
50% (median)	5.00	7.00
25%	2.00	3.20
10%	1.00	0.60
5%	0.50	0.30
1%	0.10	0.10

To provide perspective on the potential effect of a dynamic threshold, Table 2 reports the percent of trades that would be defined as blocks using thresholds of 1%, 2%, 5% and 10% of the cumulated trading volume over the past 30 calendar days for the same SBS instrument.[15] The first row of each panel reports the results for all 1667 (104) unique reference entities for Corporate (Sovereign) Single Name CDS transacted over the period. The percent of Corporate Single Name CDS trades that would be captured as blocks range from 7.04% to 49.24% for dynamic thresholds of 10% and 1% of trading volume over the past 30 days. The numbers are substantially lower for Sovereign Single Name CDS.

[15] The potential definition applied here provides for weekly rebalancing. Block thresholds in each instrument are calculated at the beginning of each week and held constant during the week. A relatively stable definition of blocks might minimize uncertainty and coordination costs among market participants in complying with the rule. Definitions that change too frequently might create unnecessary uncertainty and volatility in the market.

Table 2. Percent of Trades Captured as Block Trades Using Different Dynamic Thresholds, but No Fixed Minimum Threshold

This table shows the percent of trades that would be captured as blocks by several different levels of a dynamic block threshold definition. For simplicity, it does not include a fixed minimum threshold. The statistics are first estimated across all trades and then by level the trading activity of the reference entity traded.

	Number of Reference Entities	Percent of all Trades	Percent of Block Trades by dynamic volume-based threshold			
			1%	2%	5%	10%
Corporate Single Name CDS	1667	100	49.24	30.04	13.34	7.04
>10 trades per day	24	11.22	11.98	3.76	0.85	0.39
5-10 trades per day	149	37.42	32.17	12.50	2.58	0.84
1-5 trades per day	1,143	51.16	69.70	48.37	23.61	12.69
<1 trades per day	351	0.19	100.00	100.00	99.85	99.41

	Number of Reference Entities	Percent of all Trades	Percent of Block Trades by dynamic volume-based threshold			
			1%	2%	5%	10%
Sovereign Single Name CDS	104	100	23.53	13.07	5.69	2.74
>10 trades per day	12	55.17	9.27	3.10	0.73	0.25
5-10 trades per day	15	28.70	26.51	12.45	3.89	1.37
1-5 trades per day	60	16.07	66.87	48.11	25.61	13.44
<1 trades per day	17	0.05	100.00	100.00	100.00	100.00

The bottom four rows of each Panel in Table 2 report the percent of trades that would be captured as block trades for four subgroups of CDS instruments given by the average number of trades per day in the same instrument. Specifically, the first row includes all reference entities that have more than 10 trades per day, on average; the second row includes reference entities that have no more than 10 but greater than 5 trades per day, on average; the third row includes reference entities that have no more than 5 but greater than 1 trade per day, on average; the fourth row includes reference entities that have no more than 1 trade per day, on average.[16]

This classification by average trades provides perspective on how block definitions might work under different market scenarios, such as: (1) for low trading volume SBS instruments

[16] Alternative liquidity classifications of CDS instruments such as equal splits of reference entities into quartiles based on average daily trading frequency or average daily trading volume were estimated as well. Such alternative liquidity splits yield similar conclusions in terms of the percentage of block trades that would be captured by the block trade definition in active versus inactive instruments.

generally; (2) for on-the-run[17] SBSs that have become off-the-run as their remaining terms to scheduled termination date have grown shorter; and (3) when SBS instruments on new reference entities are launched. In such cases, the aggregate notional size of all executions in the instrument over the prior 30 calendar days may be low. As a result, the dynamic threshold would be small in many cases, resulting in many smaller SBS transactions qualifying for block status. Indeed, almost all trades in SBS instruments that experience less than one trade per day would qualify as a block trade for all dynamic thresholds reported. Using the 5% dynamic thresholds, approximately one-quarter of all trades in reference entities that have at most five but more than one trade per day would, on average, qualify as a block trade. For the most active instruments, trades would be classified as block between 0.39% (0.25%) to 11.98% (9.27%) of the time for Corporate (Sovereign) Single Name CDS as the dynamic threshold is lowered from 10% to 1% of trading volume over the past 30 days.[18]

Table 2 also shows that while 20% (16%) of Corporate (Sovereign) Single Name CDS instruments trade less than once per day, on average, these trades represent less than 1% of all trades. So, even though there are a significant number of illiquid instruments for which a high percentage of trades qualify as blocks, the fraction of these trades relative to all trades is low.

Table 3 illustrates the effect of combining the 5% dynamic threshold with fixed minimum thresholds. Based on a 20-day trading month, the 5% dynamic threshold corresponds, on average, to one day's worth of trading volume. Alone, this threshold would define 13.34% (5.69%) of all trades in Corporate (Sovereign) Single Name CDS as block trades. This would fall to 3.67% (2.87%) when combined with a $10 million fixed notional threshold and to 0.95% (1.24%) when combined with a $25 million fixed notional threshold. The number of qualifying blocks in less active instruments would fall considerably with the fixed, minimum notional thresholds, although the levels would continue to be higher than in the more active instruments.

[17] On-the-run is a finance term used to describe the most recently issued security in a series of securities with the same maturity. On-the-run securities are typically more liquid than previously issued securities with the same maturity, which are referred to as off-the-run. See, e.g. the Credit Derivatives Glossary provided by MarkIT http://www.markit.com/assets/en/docs/products/data/indices/credit-index-annexes/CDS_glossary.pdf.

Table 3. Percent of Trades Captured as Block Trades Using Both a Dynamic and Different Fixed Minimum Thresholds

This table shows the percent of trades that would be captured as blocks using a dynamic block size threshold of 5% of aggregate trading volume over the past 30 days (approximately average daily volume as estimated using previous 30 calendar days), and with a fixed minimum threshold of $0, $10, and $25 million. The statistics are first estimated across all trades and then by the level of trading activity of the reference entity traded. The first (second) panel reports for Corporate (Sovereign) Single Name CDS.

	Percent of Block Trades for 5% dynamic threshold and:		
	No fixed Threshold	$10 million fixed threshold	$25 million fixed threshold
Corporate Single Name CDS	13.34	3.67	0.95
> 10 trades per day	0.85	0.40	0.22
5-10 trades per day	2.58	1.60	0.76
1-5 trades per day	23.61	5.88	1.24
< 1 trades per day	99.85	9.00	1.47

	Percent of Block Trades for 5% dynamic threshold and:		
	No fixed Threshold	$10 million fixed threshold	$25 million fixed threshold
Sovereign Single Name CDS	5.69	2.87	1.24
> 10 trades per day	0.73	0.61	0.42
5-10 trades per day	3.89	2.58	1.33
1-5 trades per day	25.61	11.06	3.87
< 1 trades per day	100.00	23.53	0.00

Table 4 reports the distribution of calculated block threshold sizes using the different dynamic volume-based definitions. This analysis is similar to that in Table 2, but differs in that it reports the calculated size of a block threshold rather than the percent of trades that would be captured by the dynamic threshold. For instance, the analysis shows that 90% of all calculated thresholds for Corporate Single Name CDS instruments traded over the period would be less than $47.75 million in notional value if a 5% dynamic volume-based block definition were applied. The purpose of this analysis is to provide information about the point at which a fixed minimum block threshold, if applied in conjunction with a dynamic threshold, would bind. For example, if a fixed minimum threshold of $10 ($25) million were applied to Corporate

(Sovereign) Single Name CDS in conjunction with the 5% dynamic threshold, fewer than 50% (75%) of the calculated block size thresholds would be defined by the dynamic threshold.[19]

Table 4. Calculated Block Threshold Sizes Corresponding to Various Dynamic Thresholds
This table shows the distribution of the calculated daily block trade thresholds using several levels of a dynamic trading volume-based definition for a block. Each observation represents the block threshold for an entity that traded on a given day. The distribution is across all reference entities and days with at least one trade for those reference entities.

Percent of calculated block thresholds	Corporate Single Name CDS Calculated Block Trade Threshold ($ Millions)			Sovereign Single Name CDS Calculated Block Trade Threshold ($ Millions)		
	2% dynamic threshold	5% dynamic threshold	10% dynamic threshold	2% dynamic threshold	5% dynamic threshold	10% dynamic threshold
99%	53.97	134.92	269.85	304.59	761.47	1522.94
95%	26.27	65.66	131.33	150.75	376.87	753.74
90%	19.10	47.75	95.50	101.21	253.02	506.03
75%	10.69	26.74	53.47	47.52	118.81	237.62
50%	4.91	12.28	24.56	17.88	44.69	89.38
25%	1.61	4.03	8.06	5.22	13.05	26.10
10%	0.37	0.92	1.84	1.40	3.50	7.00
5%	0.16	0.40	0.80	0.63	1.58	3.16
1%	0.03	0.09	0.17	0.18	0.45	0.89

The approaches analyzed above are not the only possible approaches. For alternative approaches and refinements to the criteria for the block threshold definition in SBS instruments, please consult the Commission's SBSR Proposing Release.

[19] We have also split this analysis by groups of references names according to trading activity level. When the dynamic threshold of 5% of trading volume over the past 30 days is combined with a $10 million fixed threshold, transactions with a notional size of at least $10 million would qualify as blocks on each trading day in all instruments that trade less than once per day on average. For instruments that trade between 1 but less than 5 times per day on average, transactions with a notional size of at least $10 million would qualify as blocks on 50% (25%) of the observations for Corporate (Sovereign) Single Name CDS.

D. Comparing block definitions for SBS instruments to corporate bonds[20]

The analysis here compares the percentage of trades affected by various block definitions in Corporate Single Name CDS with the percentage of trades defined as block in corporate bonds. In corporate bonds, Financial Industry Regulator Authority's (FINRA) two-tiered definition used in the Trade Reporting and Compliance Engine (TRACE) considers a block any trade larger than $5 million for investment grade obligations and larger than $1 million for high-yield obligations.[21] Academic studies show that the mean (median) bond trade size in investment grade corporate bonds is around $760,000 ($30,000).[22] Thus, the $5 million block threshold is 7 (166) times the mean (median) trade size. By comparison, the median block threshold for Corporate Single Name CDS computed in Table 4 using the 5% dynamic threshold is $12.28 million, 2.05 (2.56) times larger than mean (median) trade size of $6 million ($5 million) in these instruments (see Table 1). This suggests that fewer trades could be classified as blocks in corporate bonds than in Corporate Single Name CDS using the 5% dynamic threshold.

This analysis is not intended to justify a particular block definition and is provided for illustrative purposes only. The corporate bond market and SBS market are sufficiently different that comparisons of this nature may not be relevant. In particular, the price impact of trading in corporate bonds could be considerably different than in SBS instruments, and significant differences in block definitions may be merited. Moreover, it is not necessarily true that block threshold definitions in the bond market are optimal, so even if a comparison between markets is

[20] This analysis provides a qualitative comparison between the number of block trades that would be captured by the various block definitions discussed by the Commission in the sample of Corporate and Sovereign Single Name CDS used throughout the Commission's SBSR Proposing Release and the analysis in this document, and the number of block trades captured historically by FINRA's TRACE block definition in the corporate bond market. References and comparisons to the post-trade transparency regime in the corporate bond market are drawn in the Commission's SBSR Proposing Release at 75232 and Footnote 108.

[21] See TRACE User Guide, version 2.4 (last update March 31, 2010), at 50.

[22] Edwards, Harris and Piwowar (2007) summarize the cross-section distributions of trade size for a sample of 12.3 million trades in almost 21,973 corporate bonds that trade between January 2003 and January 2005. Around 72% of the trades in the sample are investment grade bonds; the median (average) bond trades on average 1.1 (2.4) times per day. The study provides the mean and median of the sample trade size distribution, and these are the values used in the back of the envelope calculation of block trades provided in this comment. Ban, Pan and Wang (2008) sample consists of 1,249 frequently traded bonds from April 2003 to December 2007. The bonds in this latter sample are typically large, with a median issuance size of $700 million, and are more frequently traded than a typical bond with the average number of trades in a month for the typical bond close to 175 trades; the representative bonds in the sample are investment grade, with a median rating of 6 (or Moody's A2). The Ban, Pan and Wang (2008) study also provides trade size mean, median and standard deviations statistics.

relevant, the block definitions in the corporate bond market may not provide an appropriate benchmark.